

CONTENTS



Assembly Square Planning Study

Prepared for:

Office of Housing and Community Development,
City of Somerville, Massachusetts

Prepared by:

The Cecil Group, Inc.

with

Bonz / REA Inc.

TAMS Consultants

SAS / Design

The Miller Group, Inc.

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I.	INTRODUCTION	1
II.	EXECUTIVE SUMMARY	2
III.	PLANNING AREA	3
IV.	ASSEMBLY SQUARE PAST	4
V.	ASSEMBLY SQUARE TODAY	6
	1. Urban Design	6
	2. Transportation	8
	3. Real Estate and Economics	10
VI.	MISSION OF THE PLAN	14
VII.	TIME HORIZON	14
VIII.	VISION	14
	1. Urban Design	16
	2. Potential Build-out Volume	19
	3. Open Space	20
	4. Transportation	21
	5. Design Controls	22
	6. Fiscal Impacts and Employment Benefits	23
	7. Financial Plan	24
IX.	IMPLEMENTATION PLAN	25
	1. Development Volume: 20-Year Horizon	25
	2. Time Horizon	25
	3. Development Phasing Plan	26
	4. Infrastructure Improvement Plan	29
	5. Fiscal and Employment Impact	31
X.	LONG TERM POTENTIAL	32
XI.	NEXT STEPS	33
XII.	ASSEMBLY SQUARE IN THE TWENTY-FIRST CENTURY	34
XIII.	ACKNOWLEDGMENTS	

I. INTRODUCTION

Assembly Square, once one of the largest employment centers in the region, has experienced significant economic upheavals over the last century. The area has evolved from an undeveloped area known as the “Mystic Flats”, to an industrial center focused on metal industries, automobile assembly and grocery distribution, to the largely vacant and underutilized area with three major regional retail stores that it is today. As the region continues to experience the effects of a strong economy, Assembly Square is ready to reinvent itself for the twenty-first century.

A number of development proposals were put forward over the last two decades in the hopes of revitalizing the area, but few came to fruition. In particular, a 1979-1980 urban renewal initiative resulted in few redevelopment successes and some substantive failures.

In 1999, new proposals again emerged for large portions of the area. Prior to proceeding with the initial proposals, however, Mayor Dorothy A. Kelly Gay and the City decided to undertake a comprehensive planning effort for all of Assembly Square, and to establish a clear public policy to direct appropriate development.

This study takes a closer look at the opportunities and constraints of the area, including the historical, urban design, transportation and economic conditions, and creates a comprehensive strategy for a successful future for Assembly Square.

The purpose of this study is to give broad guidance to key public policy decisions and initiatives and to establish a general framework for future development. The framework includes an urban design concept for mixed use, ideas for revised street systems and new open space, recommendations for land use, and requirements for transportation improvements and for implementation.

This study will also be the basis for an Urban Renewal Plan amendment to the *1979 Assembly Square Urban Revitalization Plan*. Revisions will be recommended that will reinforce conclusions of this study.

This study looks at the Assembly Square area in a broad context. Specific plans will emerge from both the private and public sector as development proceeds. These will require specific technical studies, such as traffic, utility, transportation and environmental analyses. Additionally, permitting at either the State or the City level will most

likely require site plan review and an environmental impact review process. These review processes require documentation of a detailed and technical nature about specific site and area issues.

This study proposes a balanced approach that addresses a range of reasonable goals and objectives for the City and the community. It is intended to be a pragmatic study regarding economic and physical conditions of the site both today and tomorrow. It is also intended to set new standards and expectations for the future so that an optimistic vision can be achieved.

This study was created by the City with community participation, through dozens of public working meetings and with a special Advisory Committee that met over many months. It would not exist without this participation, and its recommendations will not be realized without the community's continued involvement and support of its principal conclusions.

II. EXECUTIVE SUMMARY

Assembly Square, the largest developable area within the City of Somerville, represents an important opportunity for the City. Situated approximately three miles from downtown Boston, Assembly Square is close to public transit, accessible from the highway system, and near the Malden, Everett and Medford retail centers.

In the last two decades, the City, in conjunction with the private sector, has aggressively pursued the opportunity to revitalize the area. The 1980 *Assembly Square Revitalization Plan* and the 1994 *Assembly Square Revitalization Master Plan* were two prongs of this effort. However, the site faces some obstacles as it seeks to realign itself for this new century. The lack of a clearly identifiable image, difficult ownership patterns, irregular parcelization, limited roadway access, lack of public transit on site and environmental contaminations are some of the obstacles. Yet the opportunities presented by Assembly Square are many, and the future of the site is met with high expectations for what it can become.

The Vision

This study has developed a vision of Assembly Square that is a mixed-use, twenty-four-hour district with tree-lined streets and community amenities throughout. It envisions a vital district with retail, office and residential development along an active main street parkway. Additionally, it envisions expanded and improved waterfront parks along the Mystic River.

This study recommends an initial goal of a 6.6 million square foot development volume in the area, with full consideration to factors such as roadway capacity, traffic impact, real estate market and residents' concerns.

The principles of the vision are:

1. create diverse new uses
2. create jobs, tax revenues and amenities for Somerville
3. create a *place* at Assembly Square
4. strengthen links to the region
5. become an alternative to the "downtown" or to the "suburb"
6. enhance the environment
7. become a development leader for the region
8. create additional open space
9. improve the water quality of the Mystic River and the character of the waterfront

Recommendations

This study results in recommendations in key areas. They are as follows:

1. Land Use

The vision emphasizes establishing a mixed use district with a principal component of high-tech office / R&D uses comprising roughly 68% of the development volume. At the same time, the vision calls for a mixture of retail and residential uses to build up a vital urban environment. The retail and residential component is about 30% of the proposed development volume.

2. Open Space

The vision calls for a signature public space, *Assembly Square*, and tree-lined streets, along with a main street to create an identity for the district. Additionally, this study calls for high quality open spaces, including expansion of the waterfront park and the improvements to the Draw Seven Park.

3. Design Controls

The vision calls for implementation of design controls to improve the quality of the buildings, to make sure new development is compatible with the existing context, and to meet the City's goals for the district.

4. Transportation

The vision seeks a series of transportation improvements including:

- a new Orange Line MBTA Stop
- on-site pedestrian, bicycle and shuttle systems
- structured and surface parking facilities
- on-site and off-site transportation infrastructure improvements
- new on-site roadway and utility construction
- Interstate Highway 93 interchange improvements
- new commuter rail service

5. Financial Plan

The vision calls for a balanced partnership between private and public sectors. Accomplishing the vision will require private investment and public funding programs.

6. Fiscal Impacts and Employment Benefits

The vision has, as an initial goal, approximately \$17.6 million dollars* of net benefit generated for the city and 15.5 thousand jobs created in the area. Opportunities for higher long-term potential are also created.

* All dollar figures in this report are 2000 dollar equivalents unless noted.

III. PLANNING AREA

The planning area is bounded by the Mystic River to the north and the northeast, the City of Boston and the City of Somerville jurisdiction line to the southeast, Interstate Highway 93 to the southwest, and Fellsway (Rt. 28) to the northwest.

The 145-acre planning area is currently

divided among the following uses: 54% of the total land area is in commercial use; 26 % in industrial use; 13 % in open space use; and 7% other miscellaneous uses.

Public agencies, such as the Metropolitan District Commission, the Commonwealth of Massachusetts, the Massachusetts Bay

Transportation Authority and the City of Somerville own about 40 percent of the land in the area. Another 45 percent of the land is controlled by a few large owners -- Atlantis Realty Trust, R D Management, IKEA US Holdings, National Development and Taurus New England Investments Group.



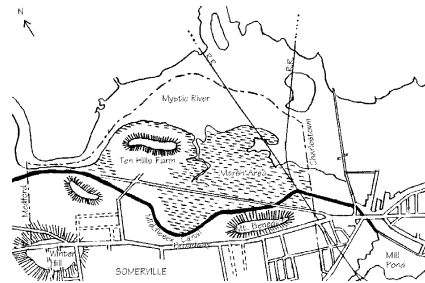
planning area



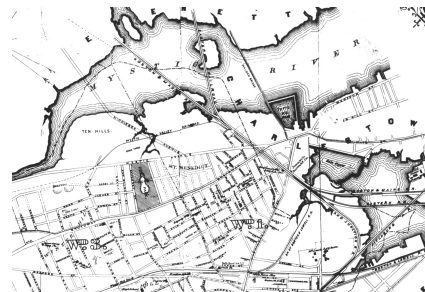
property ownership

IV. ASSEMBLY SQUARE PAST

In the 17th century, the southern bank of the Mystic River, a low-lying tidal marsh and wetlands area bordered by uplands further south in the current Ten Hills neighborhood, was avoided by the early settlers because of poorly draining clay soils. The highland site on Ten Hills offered better agricultural land and the first Governor of Massachusetts, John Winthrop, chose it for the site of his farmstead. The location of the Ten Hills site on the Mystic River made it a natural choice for the transport of people and goods, and the first seagoing vessel built in this region was launched from there. Trade and transport led to an expansion of the area's



Ten Hills and Middlesex Canal in 1852



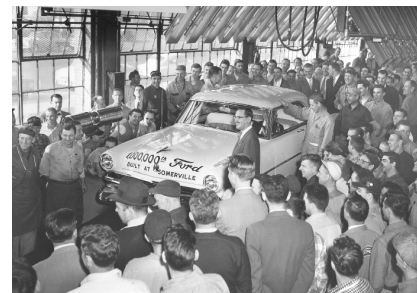
Mystic River and East Somerville in 1870

economy and population. The construction of the Middlesex Canal at the end of the 18th century accelerated this process.

By the early 1800's, there were 10 shipyards along the Mystic River. The area had developed into a transportation corridor from Boston to the region. At mid-century, rail surpassed the canal as the most efficient mode of transport and the construction of two railroads across Somerville in 1845 and 1854, along with the opening of a station at Sullivan Square, brought even more development to the area.

But it was not until the construction of the McGrath Highway in 1925 that full industrial development, albeit short-lived, took hold in Somerville. The Ford Motor Company built a plant here in 1926, and other industries, including First National Stores, a grocery manufacturing, soon followed.

Within the next 30 years, Assembly Square



Ford Assembly Plant



Assembly Square and McGrath Highway

remained one of the largest employment centers in the region. However, in 1958, as a result of the failure of the Ford Edsel and the change of Ford's manufacturing strategies, the Assembly Plant was closed. It hurt the area both economically and physically, taking away hundreds of jobs and leaving a vast complex of empty manufacturing buildings. First National moved into the Assembly Plant buildings shortly after Ford left.

By the late 1950's and early 1960's, industries were already making the choice to move to suburban locations along newly constructed highways, where land costs were lower. The construction of I-93 segregated the uses on both sides of the highway and significantly reduced its access and visibility from the surrounding areas. In 1976, First National closed its operations, marking the end of Assembly Square as a major industrial employment center.



Assembly Square after the construction of the I-93 elevated highway

The Amelia Earhart Dam was built across the Mystic River at Assembly Square in the 1960's by the Metropolitan District Commission. The dam was modeled on the Charles River Dam and there was an intent to develop the river banks of the Mystic River for recreational use on the model of the Charles River. A master plan for the MDC's Mystic River Reservation was prepared in 1973, and parks on both the Medford and Somerville sides were constructed later.

In 1979 the City prepared an Urban Renewal Plan (the "Assembly Square Revitalization Plan") in an effort to assist in redevelopment of the former Ford plant and the Assembly Square area. The Plan was approved by the Massachusetts Executive Office of Community and Development (currently the Department of Housing and Community Development) and adopted in

1980. Under the direction of the Plan, the area's focus began to shift to retail: the old Ford Plant was converted into the Assembly Square Mall, the old First National Executive Office building was converted into office space, and a new cinema was constructed adjacent to it. Two new roadways, Assembly Square Drive and New Road, were constructed to improve access to these areas.

A linear park was constructed as part of Metropolitan District Commission sewer pipe construction along Mystic River.

In 1994, the Office of Housing and Community Development prepared the *Assembly Square Revitalization Master Plan* to formulate an approach to revitalizing Assembly Square. Capital improvements, zoning changes, and a land acquisition strategy were suggested in the Master Plan for the area.

In 1996, Shopco, the last owner of the Assembly Square mall, defaulted on its mortgage, and Aetna Insurance took control of the property. By 1999, only one major tenant, K-Mart, remained in the mall.

Over the last decade, economic development dollars have been focused once again on urban areas. In the Boston region, there

have been several examples of successful urban reinvestments. The tremendous advances in information technology of recent years have opened up great economic opportunities for places like Assembly Square. Several initiatives were proposed to improve the investment environment and to restore the area's economic prosperity as follows:

1. Assembly Square Plaza (1990): an office, retail and hotel mixed-use development proposal;
2. Traffic Improvements on Mystic Avenue and Route 28 at the I-93 Interchange (1993): potential traffic improvement alternatives for the interchange;
3. Stadium Convention Center Complex (1993): a stadium with multiuse convention space, hotel, retail development proposal;
4. Costco Wholesale (1994): a retail development proposal;
5. Stop & Shop Development (1995): a

- grocery retail development proposal;
6. Tage Inn (1998): a 156-room hotel;
7. Riverside Square (1999): a box retail power center development proposal;
8. IKEA Home Furniture Store (1999): a furniture retail store development proposal;
9. Assembly Square Mall Redevelopment (2000): an office, retail, hotel and large-footprint retail development proposal.

Only a few of these initiatives were realized. Among these initiatives, only Tage Inn was realized, while IKEA Home Furniture and the redevelopment of the Mall remain active proposals.

New models of redevelopment have broadened the horizon of possibilities for Assembly Square. Non-traditional and traditional mixes of uses, such as information technology, research and development, office, retail, housing and culture, can work together to build a strong foundation of a thriving new economy. Recent efforts at revitalization in Somerville, including the initiative to develop this report, show that the City and its residents recognize the value of their community: its history, natural amenities and most importantly, its waterfront. With continued investment and a focus on quality of life, Assembly Square can become a desirable location that offers amenity, convenience and choice.



old Ford Assembly Plant: Assembly Square Mall

V. ASSEMBLY SQUARE TODAY

Recently, the development community has recognized the potential of the Assembly Square area. Several proposals for retail development appeared, in large part because of the strategic location of Assembly Square and the availability of developable land.

Key questions should be answered when planning the future of the area. Is there a realistic potential for development that would enhance jobs, taxes and amenities for Somerville? Why has redevelopment not succeeded in the past, and how must conditions change to expand opportunities?

The community raised important concerns that the initial proposals would not fulfill the greatest potential for Somerville. The Mayor has therefore initiated a master planning process to consider whether there was additional potential that should be identified.

The following assessment of the opportunities and constraints of Assembly Square may answer these questions.

Urban Design:

Image

The Assembly Square area is well situated. It is close to downtown Boston and one of the most important highway corridors in the region, Interstate Highway 93. The area is highly visible from the highway, has the potential to be easily accessible, and has beautiful waterfront views. Its development potential would appear to be high.

An interesting question was brought up during the planning process: "How can Assembly Square be situated along the highest travel volume highway in the region, yet remain largely unnoticed by the travelers who have passed by the area every day for decades?"

One obstacle is the negative image and the vagueness of Assembly Square's identity. There is no singular specific image



Assembly Square entrance

associated with the site, and most of the places that register in people's memory are stores: Home Depot, Loews Cinema, and other retail users. While the site is valuable and located three miles outside the financial district of downtown Boston, adjacent to the high-tech center of the region, developers and investors have avoided redeveloping this critical piece of land. Assembly Square needs a new identity.

Parcelization

Parcel sizes within Assembly Square vary enormously, from 0.1 acres to 26 acres. Approximately 77 percent of the parcels are under 1 acre in size, but occupy only 8 percent of the area. On the other hand, 23 percent of parcels are larger than 1 acre and occupy 92 percent of land area. This range indicates the complexity of ownership and signifies how important future uses of the large parcels will be to the character of the area. Moreover, the pattern of parcel sizes and location is poorly suited and lacks flexibility for redevelopment.

Finally, adding to the difficulty of development are a series of roadway alignments that do not provide a comprehensible system, limiting access to properties.

Building Environment

The structure of the Assembly Square Mall has historical significance as one of the earliest examples of modern industrial architecture in the country. However, the setting of the building and the building scale do not fulfill the needs for operating a retail mall. The building is also difficult to see from the road. Without a clear identity and with poor visibility, the retail mall has never reached its full potential.

The rest of the planning area is aesthetically less interesting: the buildings are mostly of an industrial character with simple facades constructed of inexpensive, basic materials.

The scale and layout of the area also discourages foot traffic. Assembly Square is an auto-oriented environment, and does not provide pedestrian amenities such as sidewalks, crossings, or landscaping. The

only exception is Assembly Square Drive, which has decent sidewalks. Most of the area is paved with bituminous materials with little landscape relief, and these factors detract from a pedestrian-friendly environment.

The typical use pattern of Assembly Square is simple and predictable: people drive to the shopping center, do their shopping and then leave. Beyond retail, the area offers no attractions such as a well-maintained waterfront park or even a pleasant outdoor environment. As such, visitors have no



retail



Middlesex Avenue



vacant land

incentive to use the area for anything other than shopping. In order to revitalize the area, this has to change. New uses and programs, careful building design, and environmental amenities will all be important components of this change.

Open Space

The waterfront park and Draw Seven Park are two important public elements in the area. They contain spectacular views of the water and offer recreational opportunities for Somerville residents. However, because both parks are poorly maintained and have few amenities, they get minimal use.

Improving the quality of the environment is not just a function of creating more open space, it is also a function of improving the quality and the usage of the existing open space. Lack of pedestrian and bicycle connections from the surrounding residential neighborhoods to the parks is another key reason that the parks get so little use.

The Amelia Earhart Dam across the Mystic River is currently closed to the public, but has the potential to be made into a public recreational and educational attraction. It could also provide a pedestrian and bicycle link to the MDC parkland on the other side of the Mystic River.



Draw Seven Park



waterfront park

Transportation: Location

The Assembly Square planning area is located close to both local and regional transportation networks, including the Interstate Highway 93 and the Sullivan Square MBTA station. However, despite the proximity of these transportation facilities, the area does not enjoy easy roadway or transit accessibility. Assembly Square is physically and visually isolated from surrounding residential neighborhoods by significant physical barriers that make pedestrian and bicycle access very difficult.

Auto access to the Assembly Square area is provided by three regional highways which traverse its borders, I-93, State Route 38 (Mystic Avenue), which ends at the Fellsway, and State Route 28 (also called McGrath Highway and Fellsway). In addition, Middlesex Avenue, which connects Mystic Avenue and the Fellsway, functions as a key component of the roadway circulation system in the area.

Rutherford Avenue, serving as an alternative route to downtown Boston, also leads to Assembly Square. A transportation planning study, the *Rutherford Avenue Corridor Transportation Study*, was conducted to explore the redevelopment potential of the corridor, considering transportation and urban design issues.



Mystic Avenue / Fellsway / I-93 ramp



Mystic Avenue / Assembly Square Drive

Roadway Access Constraints

Assembly Square can be inconvenient to get to by car. Local traffic is limited by low capacity roads. Furthermore, the area is subject to extremely poor "way-finding" because the access routes to and from the regional highways are circuitous and complicated. Peak hour capacity problems in the region also have an effect on the site, most notably at Wellington Circle in neighboring Medford, and at the McGrath Highway (Route 28) / Broadway intersection in Somerville.

The most critical component of the roadway network in the area is the I-93 / Route 38 / Route 28 interchange. Most auto traffic going to or leaving Assembly Square must pass through this interchange. In addition to its complexity, the interchange has limited capacity and safety deficiencies. It has been the subject of previous improvement studies that identified these deficiencies.

Analyses of the access and departure patterns to and from the Assembly Square site indicate that more people use I-93 / Route 38 / Route 28 interchange as a way to exit the Assembly Square site than as a way to enter it. As a result, during the PM peak period, this intersection experiences high traffic volume.

While peak period congestion is a constraint during both the AM and the PM, the evening peak period (egress) congestion is much more critical than the morning peak (ingress) for Assembly Square traffic at this interchange.

While the Mystic Avenue, Lombardi Street and Assembly Square Drive intersection at Assembly Square's southwestern corner is important to both auto and pedestrian traffic, the inbound traffic from I-93 to Assembly Square mainly uses this intersection. It also provides a bypass to downtown Boston via Charlestown during peak periods. Therefore, during the AM peak period, this intersection experiences high traffic volume.

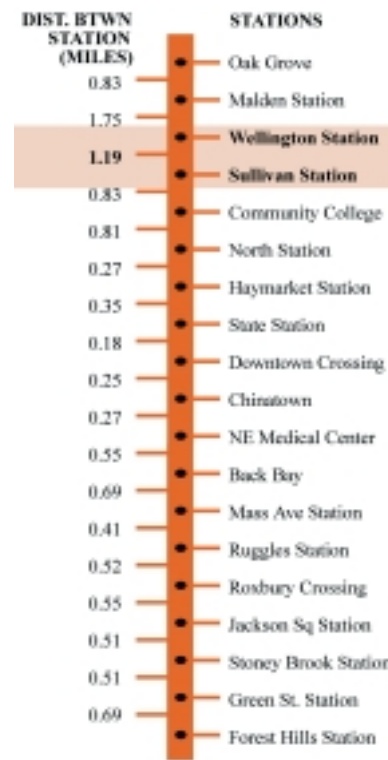
Public Transit Service

MBTA Orange Line and Commuter Rail (Haverhill, Ipswich / Newburyport and Gloucester line) tracks run in a north-south direction on the eastern edge of the Assembly Square site. Some Commuter Rail tracks then branch off in a northeasterly direction, along the southern edge of the Draw Seven Park, to connect up with the North Shore line. In addition, Sullivan Square station is served by eleven MBTA bus routes, including three routes (#90, #92 & #95) that stop close to or within Assembly Square. However, at the closest MBTA

Orange Line station, Sullivan Square, there is no Commuter Rail stop, and the Orange Line provides the only rapid transit service to the Assembly Square area. The Sullivan Square station itself is approximately 0.2 miles from the southern tip of the planning area and 1 mile from the northern tip of the planning area. This walking distance is exacerbated by the absence of direct pedestrian routes, and also by the significantly degraded physical condition of the pedestrian facilities. Hence, the planning area is not well supported by rapid transit service in terms of pedestrian connections and an inappropriate walking distance to the farthest point of the planning area.

A preliminary feasibility study was conducted to examine the interval distances between stations along the Orange Line. The results show that the interval distances between stations along Orange Line range from 0.2 to 1.75 miles for the entire corridor. The average distance between stations in the section of Ruggles Station and Green St. Station is approximately 0.5 miles. The distance between Sullivan Square and Wellington Station is approximately 1.2 miles, indicating adding a new Station within the Assembly Square area is feasible in terms of the issue of appropriate interval distance between stations.

A technical issue to be considered in addition to the interval distance issue is the grade change between Sullivan Square and Wellington Station. While the grade change between the two stations would make boarding difficult at most portions, the section of the railroad that lies from Foley Street, approximately 800 feet southward, is at-grade. This is a midway point along the site and would present an excellent location for the new T Stop.



Orange Line stations and their interval distances

A transit system, the so called "Urban Ring", is under active consideration. The Urban Ring is a circular or "circumferential transit" corridor which would serve as a "wheel" connecting the "spokes" of Boston's downtown-centered transit system. Assembly Square and Sullivan Square area have been considered as part of the Urban Ring project. As part of this project, Sullivan Square may have a Commuter Rail stop.

Pedestrian and Bicycle Access

The planning area is separated from the neighboring area by the regional highways

that surround Assembly Square. Access to Assembly Square and the Mystic River waterfront is also extremely limited for pedestrians and bicycles. Pedestrian crossing facilities are included in the traffic signal controls at the Fellsway/Middlesex Avenue and Mystic Avenue/Assembly Square Drive intersections, but the only other connection is by way of a route under the I-93 elevated structure just south of the McGrath Highway/Fellsway corridor near Kensington Street. The at-grade area underneath the elevated highways provides extremely poor pedestrian environment in terms of physical condition, aesthetics, lighting and security.



Real Estate and Economics:

The Assembly Square area is currently characterized by a mix of retail, industrial, entertainment, institutional, and office uses, but many of its buildings are underutilized. Retail uses dominate the site and account for approximately 62% of the total existing building square footage. It is also important to note that, with the exception of Yard 21, Draw Seven Park and MBTA Railroad entry roads, the Assembly Square site is predominantly privately-owned land. Because of the existing poor vehicular and pedestrian access, the site has not supported commercial development beyond retail.

During the late 1980's and early 1990's, stalled economic conditions halted most development within the region. During the last decade, however, the inner-core of the Boston metropolitan area has been targeted for a significant amount of development. Examples of this include the expansion of office and commercial development in the South Boston Waterfront District and the Back Bay, mixed use development in downtown Boston, major new residential and commercial developments in East Cambridge, and the planned public / private partnership redevelopment of 200 acres of blighted land in the TeleCom City develop-

ment, a cooperative redevelopment effort of Malden, Medford and Everett. The current economic strength of the Boston region positions Somerville for new development opportunities as well.

In order for the Assembly Square area to be redeveloped, developers must be able to afford the market price of the property. The redevelopment program must be at sufficient density and with sufficient income to support the costs associated with the project: acquisition costs, premium costs for contamination, foundations, on- and off-site improvements and infrastructure improvements. A mixed use program of retail, office, entertainment, hotel and residential uses is a viable option for the short and midterm. The repositioning and mixed use redevelopment of key retail parcels will likely lead the way. Once the area becomes established, and transit and highway improvements are made, a mix of uses, including further office development and residential development, will follow.

The following sections highlight the development opportunities in Assembly Square for retail, office/R&D, and residential.

Retail Development

Currently, the Assembly Square area is dominated by retail uses, which comprise almost 62% of the existing building square footage in the area. The Assembly Square Mall, like many other malls in the region, must reposition itself in order to be competitive with the region's freestanding box retailers, power centers, and super regional malls. While the format of the Assembly Square Mall is outdated, the provision of retail use there is viable, as testified by the volume of sales at the Home Depot nearby and the interest shown by IKEA, a major international retailer. The average household income of households living within a 15-minute drive supports future development of retail.

In the initial stages, retail is the most viable development opportunity on the sites owned by National Development and IKEA. The most probable and immediately feasible use at Assembly Square, high-quality retail, can serve as an attraction to bring other development to the area. There are several reasons for this.

First, retail represents the primary market established in the area, and as such will not be fully dependent on infrastructure improvements, such as public transit.

Large-footprint “big box” retail has been successful at the site for many years, as evidenced by high sales volumes at Home Depot. Second, K-Mart has a long-term lease at the Assembly Square Mall which allows them to remain in the site and veto new or proposed use on the site. K-Mart, however, is likely to be willing to accept a mix of uses on the site, including office, hotel and restaurant development that accompanies compatible retail use.

Redevelopment of the mall site and the IKEA site would significantly increase traffic in the area and improve the site’s image, if properly designed for that goal. The presence of mixed use as a part of the development could substantially shift the image of the area, and help pave the way for more intensive office and other development in the future.

There are public concerns about the physical form retail commerce is taking in our society, and whether large-footprint retailers will continue to be viable in light of emerging retail trends such as web-based retail and the dangers of market saturation. In the near term, such retailers continue to show a high volume of sales, and will be strong players in the economy. In the short term, design guidelines and imaginative

design solutions can substantially improve the physical form that such development takes. The cost/value ratio of box retail buildings is relatively low, particularly in relation to the extremely high sales volumes that such retailers achieve. Should changes in the economy reduce the viability of box retail or land values rise substantially for alternative uses, the structures can be easily removed to make way for new, more viable uses. From a public perspective, flexibility is a key aspect of whatever development occurs at the site, as the plan should retain the ability to accommodate alternative uses in the future.

Office / R&D Development

The Somerville office market has lagged behind that of Cambridge and other inner suburban locations. Currently, there are only 400,000 square feet of leasable Class A office development in the City. About 200,000 square feet of this space is located in Assembly Square. The remainder of leasable office space in Somerville is focused around Davis Square, which has been flourishing since the Red Line extension.

Given market conditions and development patterns, Assembly Square has the potential to become a competitive alterna-

tive to Cambridge and suburban office locations. In order to realize this potential, Assembly Square will need to improve its image, increase accessibility from I-93, obtain an MBTA Orange Line station at a location convenient to the office development, and provide attractive amenities for the office development. Likely office tenants include a mix of office/R&D users, financial services firms, and the secondary firms that serve them that are being priced out of the Financial District and other downtown locations.

The relationship between significant office/R&D development and a rapid transit station

New Leasable Office Construction in Boston and Cambridge by Subdistrict, 1960-1999

Districts	1960-69	1970-1979	1980-1989	1990-1999	1960-1999
Back Bay	1,320,000	2,200,000	2,300,000	780,000	6,600,000
Charlestown	-	-	130,000	160,000	290,000
Financial District	2,330,000	8,800,000	11,980,000	2,190,000	25,300,000
North Station	420,000	300,000	280,000	410,000	1,410,000
South Boston Waterfront	-	-	250,000	-	250,000
South Station	-	860,000	210,000	-	1,070,000
Boston Subtotal	4,060,000	12,170,000	15,160,000	3,540,000	34,920,000
Alewife Station	20,000	-	1,110,000	140,000	1,260,000
East Cambridge	530,000	730,000	3,730,000	1,710,000	6,690,000
Quincy	-	1,000,000	3,230,000	450,000	4,690,000

Source: Spaulding and Slye, 1st Quarter 2000

should be underlined. The presence of a “T” station would tremendously expand the desirability of Assembly Square for potential office/R&D users and allow it to compete successfully for such uses within the region. Office space demand for the site is likely to be very limited without it.

Current land prices, in concert with the community’s desire to restrict surface parking, means that office buildings on the site will require structured parking. Land prices also will require high densities and building heights appropriate to higher density development.

Construction patterns within the cities of Boston and Cambridge between 1960 and 1999 provide a basis from which to compare and contrast probable new construction and absorption rates for the Assembly Square site. Between 1960 and 1999, nearly 7 million square feet of leasable office space was constructed in Back Bay and East Cambridge as outlined in the exhibit.

Given the scarcity of available sites in Boston and Cambridge, the Assembly Square site is in a position to take advantage of the need for office space. Proposed improvements, such as the creation of a

new MBTA Orange Line and better traffic and pedestrian linkages, will position Assembly Square as a viable alternative to downtown and suburban development.

Residential Development

New residential development at Assembly Square introduces the possibility of bringing a new market demographic into Somerville, through the creation of market rate mid-rise rental housing.

Strong housing demand, low vacancy rates, and the increase in the number of young professionals in the marketplace who want to be located in an urban area, are all testimony to the effective demand in the market for new housing. The riverfront location and adjoining parklands of Assembly Square make it an attractive site for residential development, as evidenced by the strong developer response to other waterfront locations.

Newer developments in East Cambridge provide a reasonable comparison of the potential housing market for Assembly Square. Because of its location and regional accessibility, probable rents in the area can be compared to rents in portions of Cambridge and Boston; however, the high cost of land as well as other factors

associated with the site must be taken into account. Based on a review of area rents and bearing in mind the costs associated with the Assembly Square site, the average rental range can be projected to be between \$1,600 to \$2,000 per month.

A variety of housing types could potentially be constructed on the site. The current housing stock in Somerville is heavily comprised of low-rise, single and multifamily detached housing. Bearing in mind recent regional trends, it is likely that the demand for rental housing in Assembly Square will come from young professionals and childless couples seeking to be in an urban location in close proximity to downtown Boston and Cambridge. Because of the high numbers of people within this demographic locally, such housing is highly feasible, although it is likely that residential construction will not occur until the overall image of the area begins to change as part of a mixed-use redevelopment program.

Such housing could have the additional benefit of a small positive fiscal impact for the City. The type of housing envisioned would generate relatively high tax assessments and relatively low municipal costs if the housing is not oriented towards families.



Assembly Square aerial view 1999, source: Landslides Aerial Photography

VI. MISSION

During the planning process, the City and the community participants brought up several key goals regarding the future development of the Assembly Square area. Through an intensive community participation process, a mission statement was established. The mission statement focuses

on the creation of a vibrant 24-hour mixed-use district with an environmentally sensitive building environment. It also aims at improving the economic vitality and the accessibility of the region. The mission statement is as follows:

Create the best use of the Assembly Square area physically, economically, environmentally and socially by taking advantage of the regional transportation, economic and cultural contexts. Fulfill the best interests of businesses, residents and the City, and ultimately improve the quality of life for the City at large, in a time frame that takes into consideration both economic phasing and feasibility.

Accomplish this by:

- ***maximizing economic benefits and creating employment opportunities***
- ***providing community amenities***
- ***providing for expanded access, use and protection of the Mystic River***
- ***creating more open space***
- ***improving public transit service and all other modes of access to the site***
- ***protecting the environment***

VII. TIME HORIZON

20 years, with potential additional development beyond...

This planning study focuses on a 20-year horizon. Although this study provides recommendations that focus on a 20-year time frame, it also seeks to attract and guide additional development beyond the 20-year horizon, as detailed in a later section. The purpose of seeking a long-term potential is to test the limits of the development capacity of the planning area beyond the 20-year time frame.

VIII. VISION

The vision of Assembly Square calls for a mixed use district with a variety of active uses. The predominant use of the district is office / research and development (R & D) with residential units, cultural facilities, open space and active retail on the street level.

This vision will result in a distinct sense of place at Assembly Square. It will strengthen the links to the region, create an imaginative and vital mix of emerging uses, and become a viable alternative to the density of downtown and the remoteness of the suburb. It will establish Assembly Square as a leading area for proactive, balanced development.

The following illustrations show concepts comprising the vision and the character. Roadway alignment, parcelization, street system layout, building scale, open space and streetscape treatment are depicted.

The illustrations are for planning purposes only. They are approximate and subject to evaluations on a parcel by parcel basis.

Detailed recommendations and implementation strategies proposed by this study follow in later sections.



Urban Design:

The vision contains five major design objectives that the Plan would seek to accomplish.

Create a place at Assembly Square: urban design of buildings and open space

A place should be memorable, a site that carries meanings for its users. A place should reflect the locality and its significance. The meanings conveyed could range from a sense of character or feeling of the place to an activity that happens there; from a visual recollection to a special personal memory connected to the site. This study seeks to shape Assembly Square as a "place" that expresses its meaning to the residents of Somerville and their neighbors in the region. Several actions suggested in this study are as follows:

- Create a mixed-use, tree-lined main street with street-related activities.
- Integrate different uses throughout the area and vertically within buildings.
- Create a variety of block and building scales oriented to pedestrians.
- Ensure the continuity and quality of pedestrian experience.
- Create a pleasant waterfront and public spaces with a range of activities.
- Improve the water quality of the Mystic River to support fishing and swimming.
- Apply high level standards for environmental quality to the area.



1. waterfront park



2. main street parkway with open space



3. "Assembly Square"



4. main street "live-work" space with retail on street



main street



block scale comparison: Back Bay, Boston

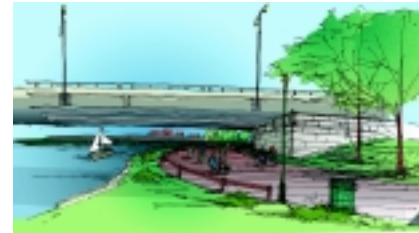


waterfront access road

Strengthen the links to the region: transit, the streets, and the highway

This study calls for connections to the region. Possible links range from pedestrian links, street connections and bicycle paths, to transit and highway connections. The actions are as follows:

- Build a new MBTA Orange Line stop.
- Create an Urban Ring transit stop in the area.
- Create commuter rail service at Sullivan Square and the southern end of Assembly Square.
- Reconstruct the I-93 Interchange near Assembly Square.
- Build a new water taxi landing.
- Create bicycle and pedestrian links to surrounding neighborhoods and the region, particularly over the Amelia Earhart Dam to Everett.
- Link the area's open space system and waterfront activities to the neighboring cities and the region.



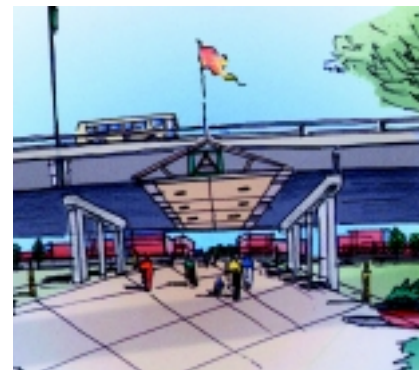
bridge underpass for bicycle connections



new Orange Line T stop



water taxi landing



highway underpass restoration



street system

- main streets
- local connector streets
- service streets
- potential streets



pedestrian traffic volume hierarchy

- high
- moderate
- low
- bicycle connectors

Create new approaches to new uses: imaginative and vital mix of emerging uses

An imaginative and vital mix of emerging uses should be established within the planning area. These will shape a special district with a diversity of activities. The uses could be as follows:

- Office, research and development, "live-work" space.
- "Lifestyle" retail, "big box" retail, destination / specialty retail, public market.
- Market-rate housing, "live/work units", affordable housing, artist studio on or off-site.
- Hotels.
- Cinemas, performing art centers, unique restaurants.
- Institutions.
- Parking structures: The scale of parking structures should be carefully evaluated. It is recommended that parking structures not be located on major pedestrian streets. Where practical, they should contain active retail or other uses on the street level and the facade should be designed in a pedestrian-friendly way.

Become an alternative to the downtown and the suburb: a middle scale

A mid-scale building environment is envisioned for the site. This can be achieved through guidelines for building heights, floor area ratios, setbacks and structured parking.

- Building height: This study suggests ranges of building heights for different uses. The following information represents possibilities for the building heights without setting definite limits. The suggested office building heights range from 2 to 16 floors; R & D building heights range from 2 to 8 floors; housing heights range from 3 to 20 floors, and retail buildings range from 1 to 3 floors. Mixed-use buildings are not included in these guidelines, as heights will vary by use combinations.
- Floor area ratios: Increases in site FARs through site review.
- Setbacks: Setbacks varied to create street walls, open space, and future development potential according to the urban design plan.
- Parking: Structured parking linked to approvals and incentives.



scale of building massing



high-tech research and development use



office use

Become the leading edge: Assembly Square as a unique opportunity for proactive development

This study seeks to establish Assembly Square as a unique opportunity for proactive development that has the potential to become the leading edge of the region. This study calls for innovative design and unique uses that will support a high quality of life and make the area a destination for the region. The actions are as follows:

- Encourage innovative design.
- Encourage new and entrepreneurial uses.
- Incorporate public art into the design of all sites and projects.
- Support quality of life.
- Become a regionally unique location.

Potential Build-out Volume: (20 years)

This study calls for at least 6.6 million square feet of development build-out volume within the next 20 years. It includes about 900 residential units, 4.5 million square feet of office, research and development facilities and a million square feet of retail spaces. Two hotels and industrial uses are also envisioned. This study calls for the use distributions shown in the following chart.

Based on Boston's history of absorption and other development factors, such as traffic capacity and economic conditions in the region, this study suggests that the development potential of the area is

approximately 6 or 7 million square feet. However, a larger build-out scenario was tested and illustrated in the study, which would have between 11 and 12 million square feet of development. Such a large scale of development would be dependent upon transportation improvements, market conditions and community approvals that can not be reasonably anticipated within a 20-year time frame.

In addition, the community needs to make a determination as to whether such a level of development is appropriate at this site, as such densities will bring both increased impacts and benefits.

Uses	Volume	Percentage
Residential	900 units	14 %
Office / R&D	4,468,000 sf	68 %
Retail	1,000,000 sf	15 %
Hotel	180,000 sf	3 %
Industrial	12,000 sf	0.2 %
Institutional	32,000 sf	0.5 %
Total	6,600,000 sf	



land use concept

- box retail
- high density mixed use areas with various types of public spaces
- secondary mixed use areas with parking and supporting facilities

Open Space:



open space system

- open space
- major landscaped streets
- secondary landscaped streets

Existing Open Space	19 acres
Proposed Open Space*	8 acres
Major Landscaped Street Length	9,000 ft
Total	27 acres

* Does not include additional open space that may be provided as part of private sector developments.

This build-out vision seeks a moderate level of development, at a scale that is between the downtown and the suburb; this vision also seeks a parallel approach in the creation of open space. This study suggests an expansion of the waterfront park, with contributions from the private sector as a development condition. Urban open spaces are suggested in several locations along the proposed "Main Street." They include a centralized public space enclosed by buildings, pocket parks, public passageways and landscaped pedestrian corridors. Local examples of these types include Post Office Square, Copley Square Plaza, Newbury Street and Commonwealth Avenue Mall in Boston.

The illustration suggests a design concept that would establish a public square, "Assembly Square," at the intersection of "Main Street" and Foley Street. Alternative configurations could achieve the same goal, and should be fully explored during the next phase of planning and design process.

The chart to the left indicates the allocation of open space within the area.

Case Comparison: Open Space

In order to test the amount of open space within the planning area, a case study of the Back Bay in Boston was conducted. The study found that the percentage of proposed open space within the planning area is similar to the percentage of open space provided currently in Back Bay.

This study suggests that private setback space, front yard and outdoor cafe space, market or display areas are encouraged to make the spaces enjoyable by the public. Not only do high quality open spaces directly relate to good city life; the high density activities that occur within the city are what makes the open space so valuable.

Assembly Square

Open Space	% of area
w/ Draw Seven Park	31 %*
w/o Draw Seven Park	18 %*

Back Bay

Open Space	% of area
w/ Public Garden	23 %
w/o Public Garden	15 %

* The total acreage of the planning area for purpose of this calculation is approximately 85 acres, which does not include streets, railroads, or the MBTA maintenance yard.



Newbury Street, Boston



Commonwealth Avenue, Boston



Post Office Square, Boston



Copley Square, Boston

Transportation:

Redevelopment within the planning area clearly will increase traffic generation, and the level of auto trip generation will depend largely upon the scale of new development, its land use type, and the availability of improved public transportation service. The effectiveness of travel demand management (TDM) strategies, such as the operation of a transportation management association (TMA) in the area, will also affect this situation.

The goal of the transportation plan for Assembly Square is to enhance its accessibility in a way that will support more future development. This will require upgrades of highway access to the site and local roadway capacities, and it will also be necessary to reduce auto-dependency by providing alternate modes of transport. These modes will support and sustain Assembly Square by bringing non-auto consumers into the site. The availability of good transit service, as well as an increased parking supply, will be necessary to support commercial development of high-quality office use. Equally, integration with the neighborhoods and linkage to the waterfront will depend upon significant improvement to pedestrian and bicycle connections and facilities.

Realistically, build-out of the 20-year plan for Assembly Square would call for the provision of adequate transit service to address local and commuter needs, and the redesign of the I-93 interchange to address capacity, safety and operational difficulties. In addition, further enhancement of transit service would become necessary to provide better system-wide accessibility. This might be accomplished by connection with the Urban Ring, which is currently under study.



bus service



transit service

The summary of the transportation improvements are as follows:

- A new Orange Line T Stop
- Creation of on-site pedestrian and bicycle systems with regional links
- Construction of structured and surface parking facilities to meet the current and future parking demands
- Creation of on-site shuttle services
- On-site and off-site transportation infrastructure improvements
- New on-site roadway and utility construction, with sufficient capacities
- Interstate highway 93 interchange reconstruction
- A circumferential transit station (i.e. Urban Ring)
- Commuter rail service at Sullivan Square and the southern end of Assembly Square
- Implementation of transportation management programs

Design Controls:

This study calls for the implementation of design controls through the existing Special Permit with Site Plan Review, Urban Renewal mechanisms and similar processes. Special design and site planning guidelines should be established by the City's Office of Housing and Community Development and Planning Department to fulfill the goals of this planning study. Standards should be adopted to apply specifically to projects within the Assembly Square Urban Renewal District.

Design control is one of the tools used in urban design to improve the quality of a building environment. These controls impose design standards on physical elements such as street edge, building entrance, facades, building massing, roof type and slope, materials and colors, parking areas, service areas and ground floor uses. Design Controls ensure that a coherent building environment is established, while still maintaining architecture and landscape architecture design flexibility.

The Design Controls for Assembly Square will establish a high level of quality for new investment by improving the area's image. A better designed environment will attract additional investment that will in turn raise

the total tax base in the area. The Design Controls structure a coordinated building and open space pattern on each site that will be compatible with additional investment on neighboring sites.

Summary of Design Guidelines

The following initial list of design guidelines has been provided to indicate several key standards that would fulfill the urban design vision of this study. They may be used as a basis for expanded, detailed standards.

1. Locate buildings to create a presence on existing street edges or along major internal circulation routes within the Urban Renewal District. Buildings should be located to reinforce both existing and future circulation patterns that may serve more than one site. The existing street and circulation pattern within the district may need to be modified to adequately serve future uses.
2. Create interesting entrance areas that are visible from major public access points, streets and circulation patterns. Building entrances should be accompanied by signage and incorporate extensive areas of glass and window, providing visual access to interior uses. Multiple entrances oriented to streets are encouraged to break up long facades or large building masses.
3. Use an articulated and varied pattern of bays, rhythms and dimensions that create continuous visual interest and variety in the design of all facades.
4. Clearly define the pattern of bays, rhythms, and dimensions by varying materials, articulating vertical and horizontal building elements, providing window openings, and other architectural techniques.
5. Provide a variety of roof types and slopes that provide visual interest and break down the overall scale of development to respond to the pedestrian-scale use of open space and the scale of surrounding neighborhoods and commercial districts.
6. Use materials and colors consistent with traditional buildings in the area with historic merit, such as compatibility with the masonry character, color and quality of the former Ford Assembly building. Avoid large, unbroken expanses of colors or materials.
7. Avoid large expanses of parking areas that are unbroken by buildings or substantial landscaped open spaces.

8. Locate building equipment and service areas away from public streets or major interior circulation routes, and provide screening. Enclose all storage of items for sale or related inventory unless it is completely screened from public view with architectural elements meeting these guidelines.
9. Ensure that development patterns provide active uses on the ground floor that take advantage of principal streets, waterfront views and open spaces.
10. Along the waterfront, multiple uses are preferred which serve as facilities of public accommodation, offering a variety of goods and services that promote a variety of activity and connection to the special waterfront environment, reinforcing it as a public place.
11. Provide parking in structures rather than as surface lots to the greatest extent practical.
12. Design parking structures to be architecturally attractive and related to the materials and quality of nearby buildings. To the extent practical, structures should be buffered from public streets and open spaces.
13. Substantially screen or reduce views of open parking areas from streets through siting of buildings, lots and landscaping.
14. Create sidewalks and landscaped areas that contribute to a continuous and interesting pedestrian environment, and link pedestrian routes to other sites and open space amenities where possible.

Fiscal Impacts and Employment Benefits:

The redevelopment of the Assembly Square site will result in approximately 6.6 million square feet of development, including approximately 900 new residential units and 5.7 million square feet of new and redeveloped retail, commercial and lodging space. The development will generate real estate tax revenues for Somerville, which will require increases in certain local budget line items. This study estimates that the redeveloped Assembly Square site will generate net annual revenues of \$17.6 million (2000 dollars) for the City of Somerville.

Annual Fiscal Impact (2000 Dollars)			
Potential	Real Estate Taxes	Municipal Costs	Net Benefit
Residential	\$ 1,735,000	(\$ 1,208,000)	\$ 527,000
Office	\$ 20,839,000	(\$ 5,226,000)	\$ 15,613,000
Retail	\$ 2,579,000	(\$ 1,169,000)	\$ 1,410,000
Hotel	234,000	(\$ 118,000)	\$ 116,000
Subtotal	\$ 25,387,000	(\$ 7,721,000)	\$ 17,666,000

	New Jobs
Office/R&D	13,325
Retail	2,015
Hotel	70
Total	15,410

Growth in the Assembly Square site will provide a significant number of permanent jobs, in addition to the jobs created during construction, through new office, hotel, retail, housing and industrial development. The table to the left outlines the number of new permanent jobs that could be created through the development of 5.7 million square feet of commercial space.

Financial Plan:

The implementation of the Assembly Square Planning Study will require financial participation from a wide variety of sources, including private developers and federal, state, local agencies. By using strategic investment of public dollars, the City of Somerville can help create a setting in which private investment is more likely to occur. Previous attempts, which relied solely on the private sector, have been unsuccessful and highlight the need for a more balanced partnership between private developers and public entities.

The City has already taken a major stake in the future of the Assembly Square site by purchasing Yard 21, a key parcel in the initial development phase, as well as future phases of the Assembly Square study area. The City can use this ownership to ensure extensive, dense new mixed use development in close proximity to a future transit station.

There are a variety of both debt and equity (grant) sources that may be appropriate to the implementation of the Somerville Assembly Square Planning Study. Many of these programs are not new; in fact, the City of Somerville has already utilized many local, state, and federal programs that are applicable to Assembly Square, such as

Section 108 loan guarantees, Public Works Economic Development (PWED) grants as well as other state and federal brownfield programs.

This study also acknowledges the important role that other direct federal and state grants must play to support infrastructure reinvestment, and the need for future MBTA participation in funding and operating new transit facilities.

The City of Somerville is currently designated as an Economic Target Area (ETA). Under this designations, in addition to qualifying to existing state and federal programs, the City may receive special consideration for grant and loan programs that will allow the City to leverage more funding through grant and loan programs.

As an ETA, the City is eligible to utilize tax increment financing (TIF). In Massachusetts and Somerville, TIF has primarily been used as a tax exemption, where the increase value of the property, due to new construction or significant improvements is exempt for a period of 5- to 20 years. One option for Assembly Square is to utilize TIF to publicly finance improvements such as public infrastructure or a public parking garage. Currently, this method of TIF is

being used by the City of Quincy to build a new parking garage downtown.

Because the Assembly Square area is currently underdeveloped, the amount of taxes collected is considerably lower than the \$25 million that is projected to be collected at the end of the development program. Tax increment financing (TIF) serves as an effective tool to utilize the new real estate taxes to finance related infrastructure improvements, such as parking structures.

In addition to TIF, the City can also utilize its Community Development Block Grant (CDBG) funds to leverage more funds through the Section 108 loan program. Currently, the City receives approximately \$3.5 million in CDBG funds. Using the Section 108 Loan program, the City can loan up to five times the amount of CDBG funds, less any outstanding Section 108 commitments.

IX. IMPLEMENTATION PLAN

Development Volume: 20-Year Horizon

This study recommends an implementation plan which involves two development phases. The first phase aims at a 3-million square foot cumulative build-out scenario with two major initiatives. The second phase aims at a 6.6-million square feet total build-out.

The following chart indicates the cumulative build-out volumes of by the end of each phase. They include existing volumes.

Uses	Existing (sf)	Phase I (sf)	Phase II (sf)
Residential	0	100 units	900 units
Office / R & D	211,000	1,732,000	4,468,000
Retail	738,000	1,033,000	1,000,000
Hotel	86,000	180,000	180,000
Industrial	121,000	48,000	12,000
Institution	32,000	32,000	32,000
Total	1,188,000	3,125,000	6,600,000

Time Horizon:

This study suggests that the first phase may be accomplished within a 5-year timeframe and that the second phase requires a 15-year timeframe. These timeframes were estimated based on the best scenario assuming no delay. A delay may occur due to the process of achieving consensus from all parties, the process of applying and receiving investment capital from public and private sectors, the process

of regulation change, the availability of assistance from the required State and Federal governments and so on.

Parties within all levels of government and the community will need to work closely and cooperatively to a great extent in order to achieve the development within the timeframes described above.

Development Phasing Plan: Phase I

Public Initiative

Phase I public initiatives involve the so-called "Yard 21" and its adjacent parcels. Unlocking development potential in this area will be dependent upon several public sector initiatives. This study recommends major transportation improvements in this phase, including construction of a new MBTA Orange Line stop. This is the first step to unlock development potential and bring more development opportunities to the area. Meanwhile, the public and private sectors will create partnerships to accomplish area improvements, including office,



1. phase I public initiative
2. phase I private initiative

retail, and housing development (with parking structures), as well as roadway and utility improvements. Between 1 to 1.5 million square feet of office / R&D development will be built in this phase. This office development is expected to transform the area into a prime office destination. Development potential can be stimulated by the use of public incentives, such as construction of the Orange Line stop, uses of the City-owned Yard 21, and tax increment financing techniques. This will require significant cooperation among the Federal, State and City agencies and Somerville citizens.

Urban renewal mechanisms are likely to be required to assist in new parcelization and reorganization of the street grid in this area.



phase I development volume

Special amendments to the Urban Renewal Plan for the area should be undertaken to allow the Redevelopment Authority to assist in land acquisition, disposition, infrastructure construction and financing.

Private Initiative

The Phase I private initiative focuses on the two major parcels along the Mystic River. Unlocking development in this area can be undertaken largely through private sector actions and public sector regulations. This study recommends mixed-use development along the waterfront and along substantial portions of a new "Main Street." The main street runs along the common property line of the two parcels. This development should achieve a sense of place and continuity that will encourage pedestrian circulation, buffer parking areas and create

a positive new image for the area. This study also envisions an expanded waterfront park with new public amenities. The mixed-use development may include large-footprint retail stores, retail, hotel, office, restaurant, structured and surface parking facilities. Parking facilities should be subdivided into smaller areas to reduce the scale impact and to be street-friendly, with sufficient landscaping. These initiatives should be realized by the private sector with limited assistance from the public sector.

A preliminary study of the magnitude of traffic associated with the various levels of development under consideration for Assembly Square reached the following conclusions:

1. Retail development will generate significantly more trips than office development on a daily and weekly basis, but would have much more limited impact during morning peak periods. Although the level of retail trip generation can vary substantially from one type of retail to another (for example, a supermarket is much higher than a shopping center), retail use invariably generates more traffic than office use during the evening peak period.
2. The net traffic generation for a shopping center is reduced to allow for both pass-by

trips and shared purpose trips, and thereby reducing the real difference compared to office use. However, as previously noted, the PM peak is the more critical period for Assembly Square access, and hence retail development does not offer an advantage over commercial office or R&D use with respect to peak period impacts.

3. If no improvement in roadway infrastructure and transit service are provided, the level of trip generation associated with Phase I of the plan would result in high auto generation and would likely substantially burden the existing, already-constrained roadway network. It would be a prerequisite of the Phase I level of development to reduce the new automobile in trip generation and to expand roadway capacities to a level that could be somewhat addressed by appropriate mitigation, such as shuttle services, transit services and roadway improvements. It would be important that any mitigation should allow for further improvements to accommodate the initial needs of the next phase of development.

Furthermore, this study recommends that the City of Somerville undertake a thorough traffic evaluation of Assembly Square and its environs. This should be used to establish a detailed understanding of

potential capacity limitations and the costs associated with improvements that will protect and expand the circulation capacity to and from the site.

While these conclusions are driven largely by consideration of trip generation and travel demand, they are also consistent with market considerations and the levels of accessibility that are necessary to make Assembly Square attractive as an accessible location for commercial development.

A question has been raised during the planning process: Can "big box" retailing be compatible with other uses? This study suggests the answer to be "It can be, if the development meets certain criteria."

Private Initiative: Potential Development Conditions

One of the community's primary concerns is that some types of development, such as box retail, may absorb existing traffic capacity and block future development potential. Therefore, it is important that any box retail development proposal demonstrates mitigation of all new traffic to ensure that the traffic capacity of the area is maintained to serve future development.

The following list represents fundamental criteria for future "big box" development proposals.

- Provision of other uses as part of a master-planned development to create a vital and attractive mixed use area.
- Improvements that ensure retention of existing traffic capacity.
- Ability to create additional traffic capacity in a cost-effective manner for other uses.
- Parallel development of other desirable uses to create a higher value mixed-use environment, including substantial redevelopment with vital uses and a pedestrian-friendly environment facing the waterfront and along a new main street.
- A combination of high quality pedestrian-friendly surface and structured parking facilities
- Positive contribution and relationship to open space.
- Urban design compatibility with future mixed use development.
- High landscape and architectural quality.

Private Initiative: Off-Site Transportation Improvements

As part of the development conditions, this study calls for a series of off-site transportation improvements which will help in retaining and expanding existing traffic capacity for other future uses. The improvements can be accomplished by the private sector with public sector assistance.

- Access improvements at Fellsway, Foley Street, New Street and Lombardi Street
- Direct underpass connection from McGrath Highway to Middlesex Avenue
- Mystic Avenue and Fellsway at-grade interchange safety and capacity enhancements
- Shuttle service plan
- Signage plan
- Pedestrian and bicycle improvements
- Neighborhood traffic calming

Case Study: Can "big box" retailing be compatible with other uses?

A case study of the City of Emeryville, California was conducted as part of the planning process. The case study was undertaken because of the similarity of Emeryville with the Assembly Square district, although not Somerville as a whole. Emeryville is a community that was

dominated by underutilized and polluted former industrial buildings. Located along a freeway, it is 7 miles from the center of San Francisco and adjacent to Berkeley, a major educational center. The area is experiencing growth, due in part to its strategic location in the regional economy. While not yet complete in accomplishing its own redevelopment vision, the City of Emeryville has successfully initiated or approved several projects with the types of mixed use envisioned as possible for Assembly Square, within a redevelopment area roughly equivalent in size. These projects contain office and residential uses, cinemas, box retail, parking garages, surface parking and an Amtrak station.

In Emeryville, big box retail not only coexists with mixed use development, it has contributed towards the revitalization of the area. This case study, including discussions with property owners and developers, and a review of the development economics, led to a conclusion that large-footprint retail development can be compatible with other uses. However, sensitive design and careful consideration of context are very important conditions of compatibility.

Phase II

The success of Phase II is dependent upon the performance of the first phase. Land value is expected to rise after the success of the initial development. Therefore, it is foreseeable that the market will gradually replace the obsolete buildings and land areas, such as abandoned land or surface parking areas. In Phase II, this study calls for the completion of the proposed "Main Street" with a vital mix of uses, such as live-work units, retail, office and open space. In addition, I-93 highway interchange reconstruction is likely to be a prerequisite for Phase II to be achieved.

Additional transit improvements such as commuter rail or circumferential may also accompany completion of Phase II.

As part of the Phase II development, the feasibility of bridging over the railroad tracks and developing the MBTA yard, including portions of land in Boston's jurisdiction should be pursued and implemented if feasible. This redevelopment will depend on close cooperation with the Charlestown community, Boston planning agencies and their initiatives, particularly the Rutherford Avenue Corridor redevelopment proposal.



phase II development



phase II development volume

Infrastructure Improvement Plan:

The assessment of travel demand has identified a series of major infrastructure improvements that are necessary to support and encourage development at Assembly Square under the phased plan. In addition, various on-site improvements will be needed to provide for adequate access needs, on-site circulation and utility needs. Detailed analysis will be necessary as part of the ongoing planning and environmental review processes to specifically identify these precise needs. Conceptual improvement proposals along with associated contingency cost estimates include the following:

Overall

On-Site Roadways

The phased plan for Assembly Square calls for significant roadway changes within the planning study area. Many of these utilize the existing street network, but they require significant upgrading of certain roadways. One of the major changes would be the establishment of a public street along a realigned Assembly Square Drive. Contingency costs of \$2.7 million, \$1.3 million and \$1.0 million* have been estimated for these improvements for the Phase I Public Initiative, Phase I Private Initiative and Phase II, respectively.

Utility Improvements

Roadway drainage, sewer, water, electricity, telephone, gas, fiberoptic and cable provisions will require upgrading to support the proposed development under the plan. The utility upgrades call for new connections and limited relocations of existing lines, although sections of new water and upgraded sewer lines are required during Phase I. Contingency costs of \$608,000; \$570,000; and \$180,000 have been estimated for utility improvements for the Phase I Public, Phase I Private and Phase II, respectively.

* All costs in this section are year 2000 equivalent dollars.

Phase I

New Orange Line Stop

Although the introduction of a new stop on the Orange Line at Assembly Square has certain implications for Orange Line operations, preliminary analysis indicates that a station could be located on the level section of existing track north of the Commuter Rail Haverhill/North Shore branch line junction, in the vicinity of Draw Seven Park. This location would be just over 0.5 miles north of Sullivan Square station, and just over 0.6 miles from Wellington station. A new at-grade station, as called for in Phase I, is estimated to cost about \$5 million including limited track work.

Site Access Improvements

Improvements to existing site access connections to the external roadway network will be necessary to accommodate additional site traffic and address safety issues in Phase I. These include geometric and signalization improvements at both the Assembly Square Drive and Middlesex Avenue intersections on the Fellsway, and at the Mystic Avenue/Lombardi Street/ Assembly Square Drive intersections. In addition, improvements at the Mystic Avenue/New Road and Middlesex Avenue/ Foley Street intersections are anticipated. Contingency costs of \$650,000 have been estimated for these improvements.

Off-Site Roadway Improvements

During Phase I, roadway improvements to mitigate impacts and address safety issues will be needed at various locations. In particular, safety and capacity enhancements will be necessary at the Mystic Avenue/Fellsway grade intersections under the elevated I-93. It is also likely that a new, direct roadway connection from McGrath Highway to Middlesex Avenue will be necessary. In addition, an enhanced signage program will be necessary to address safety and "way finding" difficulties. Contingency costs of \$600,000 have been estimated for these improvements.

Off-Site Pedestrian, Bicycle and Traffic Calming Improvements

In addition to efforts that address the pedestrian environment at Assembly Square, significant improvements to pedestrian connections and provisions for bicycles will be needed off-site. This will include, but will not be limited to, the connection at Kensington Avenue, connections to the Ten Hills neighborhood, the connection at Lombardi Street to Sullivan Square and an underpass platform connection from the southern tip of the Assembly Square to Sullivan Square Station. In addition, it would be appropriate to implement traffic calming programs in the surrounding residential neighborhoods to

address new traffic impacts. Contingency costs of \$550,000 have been estimated for these improvements.

This study encourages extension of both pedestrian and bicycle connections across the MDC dam, rail and roadway bridges or other important expansions of the regional open space and circulation network. These initiatives should be pursued as part of Phase I. Similarly, establishment of a future ferry or water taxi service near Draw Seven Park should be pursued as both a short-term and long term goal to link Assembly Square to the growing water transportation network.

Phase II

Due to the limited traffic access and capacity within the area, after a certain volume has been reached, the area will not be able to absorb any more development. This study suggests that with the off-site transportation improvements and a new Orange Line T stop, the transportation infrastructure and services will be able to serve approximately 3 million square feet of development volume. Afterward, in order to accommodate more development volume, this study calls for the reconstruction of the portion of the Interstate Highway 93 interchange system near Assembly Square, as well as the construction of a circumferential transit stop within the area.

I-93 Interchange

During Phase II, it will be necessary to fully address the deficiencies of the existing I-93 interchange. While this has been studied previously by MHD, there is no current proposal for a redesign of the interchange. It is estimated that a project of this magnitude would cost in the order of \$50 million (1993 dollars). However, in the study, no highway ramp reconstruction was proposed. Any other solution to improve the portion of the I-93 may very well cost more than \$50 million. Determining the best solution for the interchange would require a comprehensive traffic study.

Urban Ring

The current Urban Ring Major Investment Study includes three possible Assembly Square connections, as follows:

1. Bus service connecting Sullivan Square to Logan Airport via Everett and Chelsea, with an Assembly Square stop in the district.
2. A new, at-grade light rail transit (LRT) or heavy rail route from Assembly Square (parallel to, but separate from, the Orange Line) to Lechmere via Sullivan Square.
3. Addition of commuter rail service at Sullivan Square, with possible extension of platforms that would include a new head-house at the southern end of Assembly Square.

While early implementation of 1) above is an important first step, the system-wide connections afforded by 2) and 3) will be of importance to accomplish the later part of Phase II and beyond.

Infrastructure Improvements Cost Estimates

This study suggests that public infrastructure improvements are key if the development potential of the site is to reach build-out volume. However, it would require extensive cooperation among Federal, State and City agencies along with the citizens of Somerville.

	Phase I: Private	Phase I: Public	Phase II
Special Improvements		\$ 5,000,000 (Orange Line stop)	\$ 50,000,000** (I-93 interchange)
			TBD (Urban Ring Transit)
On-site improvements	\$ 1,340,000	\$ 2,720,000	\$ 1,030,000
Off-site improvements	\$ 1,800,000	TBD	TBD
Utilities	\$ 570,000	\$ 608,000	\$ 180,000
Total	\$ 3,710,000	\$ 8,328,000	\$ 51,210,000

* All numbers represent the increments of each phase.

* All numbers are based on conceptual design plans with prior experience on similar projects. More accurate cost estimates would require future detailed studies.

* All on-site improvements include roadway constructions and traffic controls.

* No land acquisition cost has been incorporated in the analysis. This study suggests that land acquisition should be implemented by public or private action when developing the area.

* All costs are year 2000 equivalent dollars except the \$50 million cost for the I-93 interchange reconstruction.

** This figure is the estimated construction cost of the preferred alternative in the *Mystic Avenue & Route 28 at the I-93 Interchange Feasibility Report* dated July 7, 1993 conducted by Vollmer Associates. The estimated construction cost was based on the 1993 unit prices and dollars.

Fiscal and Employment Impact:

Currently, the Assembly Square area generates \$2.8 million in real estate taxes and employs approximately 2,500 people. Two of the major benefits of a redeveloped Assembly Square area are new revenues for the City of Somerville in the form of new real estate taxes and new job opportunities for Somerville residents.

Based on the economic analysis model, this vision will create about 6,000 new jobs in Phase I, reaching 17,000 jobs by the end of Phase II. The new surplus real estate tax in Phase I will be about 6.5 million dollars per year. This study estimates that by the end of phase II, new surplus real estate tax will be about \$17.5 million per year.

	Existing	
Surplus Real Estate Tax*	\$ 2,810,000	
Existing Jobs	2,524	
* Surplus Real Estate Tax equals real estate taxes minus municipal costs.		
	Phase I	Sum of Phase I and II
New Surplus Real Estate Tax*	\$ 6,559,000	\$ 17,666,000
New Jobs	6,136	15,410
* Surplus Real Estate Tax equals real estate taxes minus municipal costs.		
* Phase I and the sum of Phase I and II figures do not include existing volumes.		
* All taxes are in year 2000 equivalent dollars.		

X. LONG TERM POTENTIAL

This study considered the long-term potential of the area beyond the initial 20-year period which is the specific goal of this study. An illustrative plan was prepared to indicate the long-term potential that might be created through a combination of public improvements and incremental private investment.

Market conditions that produce this type of redevelopment must be in place for this scale of redevelopment to occur. Other conditions, such as substantially expanded roadway access, transit improvements well beyond the addition of a T station, full scale reconstruction of the I-93 access corridor, and availability of street and roadway capacity must also occur. In addition, the success of

the area relative to competing sites and the willingness of the community to accept the very large impacts of such development will be factors in long-term success. If these conditions are met, redevelopment of the “big box” sites would logically occur.

In this illustration, the eventual conversion of large-footprint retail to more dense uses is predicted as a consequence of the changing conditions noted above. However, the specific organization and persistence of particular uses could vary considerably and still achieve the overall development quality and density that would bring continued benefits to the City.



long term potential

Uses	Volume
Residential	900 units
Office / R&D	9,900,000 sf
Retail	539,104 sf
Hotel	186,000 sf
Industrial	0
Total	11,600,000 sf
* All numbers represent the cumulative volumes, including existing volumes.	

	Increments	Total
New Net Real Estate Tax Revenue	\$ 19,529,000	\$ 37,195,000
New Jobs	16,835	32,245
* The real estate net tax revenue equals real estate taxes minus municipal costs.		
* All numbers do not include existing volumes.		
* All taxes are in year 2000 equivalent dollars.		



long term potential

XI. NEXT STEPS

In order to achieve the visions and related benefits contained in this study, a series of actions need to be taken by the City. This initiative should also lead to contributing actions by the State and Federal governments, the Massachusetts Bay Transportation Authority, and the Metropolitan District Commission. Private landowners, lease holders, and developers must also undertake steps that will lead to the best future for Assembly Square.

The following are key steps that should be accomplished:

Urban Renewal Plan

The City and its Redevelopment Authority should initiate an extension of the existing Urban Renewal Plan for Assembly Square for an additional 20 years in order to complete its unfulfilled goals.

An Urban Renewal Plan Amendment should be considered to expand land use and design controls.

A special study process should be initiated to create a major Urban Renewal Plan amendment that will allow for acquisition, disposition, reparcelization and infrastructure development within the portion of Assembly Square generally south of Foley Street.

The Urban Renewal area should be expanded to include the MBTA maintenance yard up to the City of Boston boundary.

Transportation Planning

A major traffic circulation and parking study should be undertaken by the City to establish current and future capacities for access to Assembly Square, and to plan for expansion of that capacity.

Transit

The City should work with the MBTA and relevant state and federal agencies to establish an implementation plan for a new MBTA Orange Line station.

Development

Development should proceed on private and public sites within the area that demonstrates compatibility with the City's goals and objectives, and with the planning framework contained in this study.

XII. ASSEMBLY SQUARE IN THE TWENTY-FIRST CENTURY



Assembly Square Planning Study public participation process

The world is evolving rapidly with new technology and innovative information systems. New types of urban life have emerged in recent years and consumer behaviors have changed with information technology's impact on society. Innovative urban living and working environments are being created to accommodate and expand upon these societal changes.

Assembly Square is ready to reinvent itself for the next century. This study calls for

efforts that support new uses and entrepreneurial actions that will eventually transform the area into a unique regional destination. Assembly Square can become an urban district that reflects the character of the technology era, while still retaining the amenities of urban life.

Transformation of urban environments takes considerable time and effort. It is a challenging task not only for the public sector, but also the private sector and the

citizens of the City. Persistence and patience are the keys to the success of the vision. Throughout the Assembly Square planning process, all parties have shown enthusiasm, support and commitment. By drawing on the energy shown by all participants, Assembly Square has the potential to become a new vibrant urban destination in the region over the next century.

XIII. ACKNOWLEDGMENTS

Mayor Dorothy A. Kelly Gay

City of Somerville

Stephen Post, Executive Director, Office of Housing and Community Development (OHCD)

J. Brandon Wilson, Executive Director, Planning Department

Jim Hickey, Senior Project Manager, OHCD

Jeff Levine, Senior Project Manager, OHCD

Bill Lyons, Director, Traffic and Parking Department

Planning Consulting Team

The Cecil Group, Inc., Planning and Urban Design Consultants

Bonz/REA, Inc., Real Estate Economics and Financial Planning

TAMS Consultants, Inc., Transportation and Infrastructure Planning

SAS/Design, Urban Design Support and Imaging

The Miller Group, Inc., Urban Renewal Plan Technical Consulting

Assembly Square Advisory Committee

Mayor's Designee:

Heather Rowe, Administrative Assistant

Office of Housing and Community Development:

Stephen Post, Executive Director

Board of Alderman:

William Roche

Joseph Curtatone

William White

Mystic View Task Force:

Lynn McWhood

Wigton Zamore

Community Representatives:

Felicia Collazo

Joseph Favaloro

Lanny Evarts

Paul Kelley

Joan Guarino

Business Representatives:

Sandra McGoldrick, Winter Hill Federal Savings Bank

Stephen Mackey, Somerville Chamber of Commerce

Thomas Bent, Bent Electrical Corporation

Thomas J. Kelly, US Trust

Public Agencies

Massachusetts State Department of Housing and Community Development

Massachusetts Metropolitan District Commission

Massachusetts Bay Transportation Authority

Boston Redevelopment Authority

Citizens, Owners, Tenants and Developers

This study is indebted to the many citizens who have attended meetings, workshops, telephoned and written their comments. Appreciation is also extended to the firms and individuals who are participating in the planning and design of the future of Assembly Square.

An unique contribution came from the Mystic View Task Force. This volunteer group has consistently brought a valuable focus to the issues and opportunities of Assembly Square for the Somerville Community.